

## Functioning of Youth Served in Group Homes in the State of Maryland

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### Introduction

This report presents the findings of an evaluation of psychosocial functioning among 180 youth residing in Maryland group homes. The primary focus of the evaluation was to provide Maryland's Department of Human Resources (DHR), which is responsible for the state's child welfare services, with a description of youth residing in group homes and predictors of functioning during group home care, including length of stay, level of need, and demographic characteristics. In addition, descriptive data on severity of youth impairment and an example placement decision support model using the Child and Adolescent Needs and Strengths (CANS) – Comprehensive Version assessment are presented as a starting point for the development of a formal placement decision support model. Maryland's DHR is committed to practice improvements throughout the system and is particularly interested in developing criteria for group home placements. Findings from the current study will inform the development of formal placement guidelines and ultimately help match levels of services to the diverse needs of entering youth.

In this study, the following questions were investigated:

- What are the characteristics of youth in Maryland group homes?
- What are their needs and strengths?
- What mental health issues do the youth have?
- What psychotropic medications are the youth being prescribed?
- Overall, was youth functioning better after group home care compared to their functioning at intake?
- Does progress depend on youth gender, age, or length of stay?

### Method

#### *Sample*

Youth on average were approximately 14 years of age (range = 5 to 20,  $SD=2.75$ ) at time of group home admission and 71% male ( $n=128$ ). The sample included African American (79%), Caucasian American (18%), and other (3%) ethnic backgrounds. Youth resided in group homes located across the State of Maryland, including Baltimore City (41%), Baltimore County (32%), Prince George's County (7%), Washington County (7%), Howard County (6%), Montgomery County (4%), and Frederick County (3%). Group home location does not necessarily reflect the jurisdiction from which youth came. Data on jurisdiction of the youth were not collected.

Based on DHR information (RDLC, 2007), group homes were licensed to provide a range of care and supervision intensity. Intensity levels include "low," "moderate," "intermediate," and "high." Designated intensity levels increase as needs of typical youth served and program capacity for structure and monitoring increase. At the lowest intensity group homes, youth are typically neither a threat to self or others nor a flight risk, and the program provides age-appropriate supervision and direction related to school and community. At the highest intensity group homes, youth pose a clear threat to self and others, and the program provides 24-

hour supervision, high ratio of staff to youth (ranging from 1:3 to 1:4), staff supervision and support, and other safeguards (e.g., security cameras and alarms). Of the 29 group homes included in this study, 10 were designated as “low” intensity, 12 “moderate,” 4 “intermediate,” and 5 “high.” Of the 180 youth assessed, 46% resided in “low” intensity group homes, 31% “moderate,” 13% “intermediate,” and 11% “high.”

### *Procedure*

A sample of 30 group homes was randomly selected from the approximately 140 DHR-licensed group homes in the State of Maryland. DHR sent letters to each of the 30 group homes explaining the evaluation, level of expected participation, and timeframe of data collection (August through September, 2008). Because one group home did not respond to contact requests, a total of 29 group homes were included in this study. Data collection involved conducting chart reviews using the Child and Adolescent Needs and Strengths (CANS) – Comprehensive Version to assess youth functional outcomes at two time points (i.e., T1 = admission into the group home; T2 = current or discharge, if appropriate). Only youth who resided within the past year and stayed for at least three months in the group home were included in the sample. In homes with more than 15 eligible youth, fifteen charts were randomly selected for review. From the 29 group homes, 180 eligible charts were evaluated, out of the estimated 1,250 youth currently residing in group homes.

### *Measures*

Youth demographic variables, specifically age, gender, and ethnicity, were based on charting information.

Youth mental health issues were measured by the DSM-IV Multiaxial Assessment noted in the youth case charts.

Youth prescription psychotropic medications were noted in the youth case charts.

Youth length of stay at the group home was calculated based on treatment status at T2 (i.e., current or discharged resident). For current residents, length of stay represented the number of months from admission to date of chart review. For discharged residents, length of stay represented the number of months from admission to date of discharge.

Youth psychosocial functioning was measured by the Child and Adolescent Needs and Strengths (CANS) – Comprehensive Version. Eight members of the research team participated in online training and earned certification in CANS coding before being deployed in the field. Furthermore, John Lyons – developer of the CANS – provided guidance on conducting chart reviews using the CANS. The CANS consisted of 55 four-point Likert-scale items with greater urgency for intervention as ratings increase. Item ratings and respective definitions are summarized in the Appendices, in addition to frequencies of ratings on CANS items at T1 and T2.

Four subscale scores were calculated by averaging item scores within a subscale and multiplying resulting scores by ten (J. Lyons, personal communication, October 25, 2008). These subscales included Life Domain Functioning, Child Strengths, Child Behavioral/Emotional Needs, and Child Risk Behaviors. The Life Domain Functioning subscale assesses problems in major areas of the youth’s life (e.g., living situation, development, medical health, and school). The Child Strengths subscale assesses lack of protective resources (e.g., quality of important relationships, talents, and spirituality). The Child Behavioral/Emotional Needs subscale assesses

mental health problems, while the Child Risk Behaviors subscale assesses danger to self and others.

Subscale scores for Caregiver Strengths and Needs were not included due to severely limited information available in case charts. Subscale scores for Child Acculturation were not included due to limited variability.

### *Analyses*

The major research questions were examined using descriptive statistics, *t* tests, and multiple regression analyses using the SPSS statistical software package. Criteria based on CANS scores for referral to group home placement were adapted from decision models developed by John Lyons.

## Results

### *Descriptives*

Descriptive statistics on the demographic and study variables are summarized in Table 1.

Table 2 summarizes correlations of study variables. Youth age was negatively correlated with length of stay ( $r = -.36$ ) and T1 Life Domain Functioning ( $r = -.17$ ). In other words, younger children tended to stay fewer months at the group home and have more problems in general areas of life at intake. Length of stay was negatively correlated with T2 Child Strengths problems ( $r = -.20$ ), such that youth who resided more months at the group home tended to have more strengths. All CANS subscales scores were positively correlated ( $r = .28$  to  $.80$ ). No other significant correlations were detected.

In addition, group home intensity level of care was not significantly correlated with any CANS subscale, except T2 Child Strengths impairment ( $r = -.18$ ,  $p = .002$ ). In other words, based on group home intensity designations provided by DHR, care and supervision level showed no relation to CANS scores with the exception of one. Youth with more strengths following their residence in the group home (i.e., at T2) tended to reside at group homes with higher care and supervision levels.

*Length of stay.* By T2, youth on average resided 16.55 months (range = 3 to 87,  $SD = 15.53$ ) at the group homes. It should be noted that length of stay represents time from admission into the current group home. Since some children had not yet been discharged from this placement at the time of the review, this figure does not reflect that average length of stay in an episode of group home care, nor does it reflect the total time spent at this level of care. By T2, 39% of youth had been discharged.

*DSM Axis I, Axis II, and comorbidity.* Frequencies of youth mental health issues as measured by DSM Axis I and Axis II diagnostic categories at both time points are summarized in Tables 3a and 3b. The three most prevalent Axis I diagnostic categories at both time points were mood disorders, disruptive behavior disorders, and attention-deficit hyperactivity disorders. Of those cases for which we found DSM Axes charted at T1 ( $n=137$ ), approximately 65% of youth were given two or more Axis I diagnoses, 22% were given Axis II diagnoses, and 20% of youth had comorbid Axis I and II diagnoses. Meanwhile, 3% had no diagnosis on Axis I and 42% had no diagnosis or deferred diagnosis on Axis II (see Table 3c). At T2 ( $n=156$ ), approximately 67% of youth were given two or more Axis I diagnoses, 18% were given Axis II diagnoses, and 16% of youth had comorbid Axis I and II diagnoses. Meanwhile, 1% had no diagnosis on Axis I and 48% had no diagnosis or deferred diagnosis on Axis II (see Table 3d).

*DSM Axis III.* Frequencies of youth medical issues noted in DSM multi-axial classification are summarized in Table 3e. The three most prevalent medical issues at both time points were asthma, obesity, and allergies.

*Psychotropic medication.* Frequencies of youth prescribed specific psychotropic medication at both time points are summarized in Table 4a. Of the youth whose charts contained medication information, 42% at T1 were not prescribed any medication (see Table 4b). This figure decreased at T2 to 36%. At T1, 39% were prescribed two or more drugs and 18% were prescribed three or more drugs. At T2, these figures increased to 45% and 23%, respectively. Of youth under 6 years of age on admission ( $n=2$ ), one was not prescribed any psychotropic medication and the other was missing psychotropic medication information. By T2, these two youth were 7 and 8 years of age and both were prescribed psychotropic medication. One of these youth was prescribed two medications (including one antipsychotic medication).

In terms of antipsychotic medications (see Table 4c), most youth (65%) on admission were not prescribed this class of medication. However, more than one-third of youth was prescribed one antipsychotic medication and the remainder (1%) was prescribed two antipsychotic medications on admission. At T2, 35% of youth was prescribed one antipsychotic medication and 5% were prescribed two.

#### *Analyses: Paired sample $t$ test*

*Whole sample.* Paired sample  $t$  tests were conducted to evaluate whether youth impairment as measured by the CANS differed from T1 to T2. The results indicated that mean impairment in Life Domain Functioning and Child Strengths scores at T2 were lower compared to that at T1 (respectively,  $t(179) = 5.57, p = .00$  and  $t(178) = 5.53, p = .00$ ). In other words, youth showed overall improvement in functioning in life domains and child strengths. No mean differences across time were detected on other CANS scales (i.e., Child Behavioral/Emotional Needs and Child Risk Behaviors).

*By gender.* In separate analyses for females and males, paired sample  $t$  tests were conducted to evaluate whether youth impairment as measured by the CANS differed from T1 to T2. For males, results were similar to those of the whole sample. Specifically, mean impairment in Life Domain Functioning and Child Strengths scores at T2 were lower compared to that at T1 (respectively,  $t(127) = 6.35, p = .00$  and  $t(126) = 6.31, p = .00$ ). In other words, male youth showed overall improvement in functioning in life domains and child strengths across time. No mean differences across time were detected on other CANS scales for male youth.

For females, mean Child Risk Behaviors at T2 were higher compared to that at T1 ( $t(51) = -2.99, p = .00$ ). In other words, female youth functioning on average worsened in terms of risk behaviors across time. No mean differences across time were detected on other CANS scales for female youth.

*By ethnicity.* In separate analyses for the two predominant ethnic groups in the sample (i.e., African Americans and Caucasian Americans), paired sample  $t$  tests were conducted to evaluate whether youth impairment as measured by the CANS differed from T1 to T2. For both groups, results were similar to those of the whole sample. Specifically, mean impairment in Life Domain Functioning and Child Strengths scores at T2 were lower compared to that at T1 (African Americans: respectively,  $t(142) = 4.28, p = .00$  and  $t(141) = 5.06, p = .00$ ; Caucasian Americans: respectively,  $t(31) = 3.70, p = .00$  and  $t(31) = 2.28, p = .03$ ). In other words, both African American and Caucasian American youth showed overall improvement in functioning in

life domains and child strengths. No mean differences across time were detected on other CANS scales.

#### *Analyses: Multiple regression*

*Main effects.* Regression analyses revealed a main effect of gender, such that girls were rated as having more impairment than boys in T2 Life Domain Functioning ( $\beta = -.16, p = .00$ ), Child Strengths ( $\beta = -.17, p = .00$ ), and Child Risk Behaviors ( $\beta = -.10, p = .03$ ), controlling for baseline scale scores, length of stay, and youth age. No gender differences were detected on T2 Child Behavioral/Emotional Needs scores. There were no main effects of age or length of stay.

*Interaction effects.* A significant T1 Child Behavioral/Emotional Needs-by-age interaction was detected ( $\beta = .10, p = .04$ ). At lower levels of T1 Child Behavioral/Emotional Needs, younger children were rated as having more impairment at T2 than older children ( $\beta = -.23, p = .02$ ), while age was not a significant predictor of impairment at other levels of T1 Child Behavioral/Emotional Needs (see Figure 1). In other words, among youth whose mental health functioning was relatively well at intake, younger youth fared worse by T2 compared to their older counterparts. There were no other interaction effects.

### Discussion

#### *Summary of results*

Findings of the present study suggest that group home placement might benefit some youth, but might exacerbate risks in others. In particular, the current sample of youth residing in group homes showed gender differences in outcomes. Males showed improvement in the CANS subscales of Life Domain Functioning (e.g., social, medical, school, and job functioning) and Child Strengths, but showed no difference across time in the areas of behavioral and emotional needs and risk behaviors.

Females, on the other hand, showed worsening in the CANS subscale of Child Risk Behaviors and showed no difference across time in the other assessed areas of life domain functioning, strengths, and behavioral and emotional needs. Given the relatively small sample of females in this study ( $n = 52$ ), replication of this finding is important. A larger and more representative sample could address issues of statistical power and generalizability of findings beyond this sample. Nonetheless, females and males on average did not differ significantly on age, length of stay, or functioning at intake, which might otherwise explain differences between these groups.

Furthermore, girls fared worse than boys overall in terms of later psychosocial outcomes, and younger children with lower initial levels of behavioral and emotional needs showed greater later impairment than their older counterparts. Together, these findings suggest that while group home placement may benefit some youth, the role of certain characteristics including gender, age, and initial level of need might differ in predicting outcomes.

#### *Observations and other anecdotal data during data collection*

*Documentation and assessment.* Chart documentation approaches varied widely among group home agencies, although certain documentation was universal (i.e., basic care including medical, dental, and clothing). We suggest the following components for group home documentation:

1. *Face Sheet*, including youth name and demographic information (i.e., age, gender, race/ethnicity), date of birth, date of admission to group home, date of discharge, current medication regimen.
2. *Treatment Summaries at Intake and Discharge*, including extensive background and history with attached previous psychological/psychiatric evaluations, previous placement and treatment history (i.e., previous treatment strategies and medication regimens and their effectiveness), factors that exacerbate and strategies that alleviate youth distress, permanency plan, DSM axes, treatment course according to functioning in major life domains, and disposition. These summaries provided a narrative of the youth and family's experiences throughout the change process. They also provided reasoning for this level of care and criteria for transfer to less restrictive level of care.
3. *Progress Updates*, including regular narrative briefs (e.g., monthly, quarterly) of functioning across life domains as outlined by the CANS. Furthermore, updates on family functioning should also be noted (i.e., relationship quality among family members, level of family collaboration in treatment, and progress toward achieving permanency plan). Note: Daily logs of youth activities could be used for internal group home purposes but should not replace documentation of youth progress.
4. *Utilization of CANS for Treatment Planning*

Overall, a more standardized format in documentation would likely assist caregivers and therapeutic staff ensure continuity of care (e.g., listing of triggers for maladaptive behavior and tried and true strategies for adaptive coping along with medication regimen).

*Support and resources.* A number of group home agents identified provider needs in terms of caring for their youth residents. These needs were also reflected in documentation. These needs included:

- More efficient and accurate transfer of critical youth information and treatment history at referral to improve treatment planning
- More extensive training on the CANS, as a tool for treatment planning
- More extensive training on addressing various youth mental health and behavioral issues, especially regarding *trauma-informed care*
- More training on normative human development to differentiate normal from abnormal behavior
- Greater understanding of and accessibility to community resources (e.g., Wraparound)

#### *Implications for policy*

The findings from this present study might inform the development of a formal placement decision model in Maryland. An evidence-based decision model could help match youth characteristics and needs with the most effective level of care and services. For example, findings of the present study suggest factors (gender, age, and initial levels of functioning) which should be considered in placement decisions. By considering needs and strengths of youth and families currently being served by Child Welfare Services and the most effective corresponding levels of care, policymakers could develop a decision support model based on empirical data and

local priorities (e.g., streamlining referral to level of care process and integrating care for youth across different governmental agencies).

Examining decision support models in states with similar youth placement structure would also be helpful in developing a Maryland placement decision support model. The CANS items have been used by other states in decision models for youth placement in various levels of care. Decision models implemented by other states are based on cumulative severity across the subscales of Life Domain Functioning, Child Behavioral/Emotional Needs, Child Risk Behaviors, and Caregiver Needs and Strengths (see Appendix E for example criteria; Lyons, 2005). As a starting point for discussing the development of a Maryland decision support model, number of youth and their number of “2” and “3” ratings on subscale items are summarized in the Appendices C and D. Previously, Caregiver Strengths and Needs were also considered in the decision model; however, due to severely limited information available in case charts, this subscale was not included in this report.

### *Implications for further research*

Further research is needed to identify factors, which predict outcomes and could be incorporated into a decision model, so that overall treatment plans can be tailored to the specific circumstances of each case. Ultimately, matching effective services to youth and families could promote resilience and wellness and reduce risk for the community as a whole. Toward these goals, the research team proposes future research directions in order to identify potential strategies to improve outcomes.

*Examining program effectiveness among group homes.* First, effectiveness of existing programs should be tested, because effective strategies might already be implemented in group home programs. The most effective group home programs should be empirically identified and their specific intervention strategies and practice principles should be investigated, so that their “recipe for success” might be shared with other Maryland group home programs.

In order to test program effects, valid measures of effectiveness must be defined. Effectiveness can be operationalized in a number of ways at the program level and youth/family level. For instance, at the program level, effectiveness might be indicated by the number of discharges to in-home placements such as transition to residing with a DHR-approved caregiver and appropriate independent living. Undesirable outcomes might be indicated by the number of discharges to other temporary placements such as other group homes, residential treatment facilities, and hospitalizations. At the youth/family level, effectiveness might be indicated by improvement in functioning across time. Example measures of youth/family functioning could include the CANS as a general indicator and number of days without major incident, frequency of permanency plan caregiver – youth contact, and scores on symptom severity checklists as specific indicators.

*Examining moderating factors.* Another important consideration would be factors which enhance or diminish program effects (i.e., moderators), which would help to further refine the match between consumer and services. In the present study, age was a significant predictor of later behavioral and emotional needs for youth with low levels of initial behavioral and emotional needs. Investigating potential moderators could help determine which youth/family characteristics or processes are most helped by existing programs in group homes and other levels of care. Also important is identifying which combination of consumer characteristics and services might produce iatrogenic effects. Examples of characteristics might be youth and caregiver gender, youth and caregiver age during intervention, youth and caregiver temperament,

quality of youth and caregiver relationship, and severity of internalizing versus externalizing symptoms.

*Examining effectiveness of group homes versus alternative interventions.* In line with DHR's goals to develop formal placement guidelines and ultimately help match levels of services to the diverse needs of entering youth, the effect of group homes should be tested against alternative interventions resulting in less restrictive placements (e.g., Wraparound). Interventions should be compared using scientifically rigorous methods (i.e., longitudinal, randomized studies), in order to determine which interventions provide the most benefit to youth and their families.



## References

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Table 1. Sample size, means, standard deviations, skewness, and kurtosis of continuous predictor and criterion variables.

Variables	N	<i>M</i>	<i>SD</i>	Skew	Kurtosis
T1 Youth Age (years)	180	14.86	2.75	-1.02	0.90
Length of Stay at Group Home (months)	180	16.55	15.53	2.24	5.41
T1 CANS Life Domain Impairment	180	10.43	3.80	-0.26	-0.44
T1 CANS Child Strengths Impairment	179	19.85	3.86	-0.42	0.09
T1 CANS Child Behavioral/Emotional Needs	180	9.63	4.65	0.29	0.00
T1 CANS Child Risk Behavior	180	5.86	3.66	0.37	-0.45
T2 CANS Life Domain Impairment	180	9.34	3.92	0.02	-0.54
T2 CANS Child Strengths Impairment	180	18.70	4.57	-0.47	0.54
T2 CANS Child Behavioral/Emotional Needs	179	9.41	4.37	0.09	-0.34
T2 CANS Child Risk Behavior	180	6.06	3.53	0.32	-0.48

Table 2. Correlations of youth age, length of stay, and CANS scale variables.

Variable	1	2	3	4	5	6	7	8	9	10
1. T1 Youth Age (years)	1									
2. Length of Stay at Group Home (months)	-.36**	1								
3. T1 CANS Life Domain Impairment	-.17*	.10	1							
4. T1 CANS Child Strengths Impairment	.002	-.10	.42**	1						
5. T1 CANS Behavioral / Emotional Needs	.04	-.05	.50**	.34**	1					
6. T1 CANS Risk Behaviors	.01	.08	.63**	.42**	.64**	1				
7. T2 CANS Life Domain Impairment	-.10	-.04	.77**	.40**	.40**	.51**	1			
8. T2 CANS Child Strengths Impairment	-.04	-.20**	.32**	.80**	.28**	.32**	.49**	1		
9. T2 CANS Behavioral / Emotional Needs	-.03	-.06	.45**	.35**	.79**	.54**	.57**	.43**	1	
10. T2 CANS Child Risk Behavior	-.03	.06	.61**	.44**	.56**	.77**	.69**	.47**	.68**	1

Note: \*  $p < .05$ . \*\*  $p < .01$ .

Table 3a. Number and percentages of youth with DSM Axis I diagnostic categories at T1 and T2.

Diagnostic Category	T1		T2	
	n	%	n	%
Mood Disorders	76	55%	84	54%
Disruptive Behavior Disorders	53	39%	61	39%
Attention-Deficit Hyperactivity Disorders	51	37%	65	42%
Adjustment Disorders	28	20%	39	25%
Anxiety Disorders	18	13%	22	8%
Learning Disorders	14	10%	14	9%
Substance-Related Disorders	12	9%	12	8%
Impulse Disorders	9	7%	10	6%
Communication Disorders	7	5%	8	5%
Sexual and Gender Identity Disorders	7	5%	7	4%
Elimination Disorders	5	4%	5	3%
Pervasive Development Disorders	5	4%	4	3%
Psychotic Disorders	3	2%	4	3%
Reactive Attachment Disorders	3	2%	6	4%
Other Disorders	5	4%	5	3%

Note: T1 n = 137; T2 n = 156. These categories are not mutually exclusive. Given rates of comorbidity in this sample, sum of percentages exceed 100%. V-codes were excluded from these frequencies.

Table 3b. Number and percentages of youth with DSM Axis II diagnostic categories at T1 and T2.

Diagnostic Category	T1		T2	
	N	%	n	%
Mental Retardation	10	7%	8	5%
Borderline Intellectual Functioning	7	5%	8	5%
Personality Disorders	1	1%	2	1%
Personality Disorder “Traits”	10	7%	8	5%

Note: T1 n = 137; T2 n = 156. These categories are not mutually exclusive.

Table 3c. Number of DSM Axis I diagnoses per youth at T1 and T2.

# Diagnoses	T1		T2	
	n	%	n	%
0	3	3%	2	1%
1	44	32%	50	32%
2	45	33%	50	32%
3	25	18%	30	19%
4	13	9%	16	10%
5	7	5%	7	4%
6	0	0%	0	0%
7	0	0%	1	1%

Note: T1 n = 137; T2 n = 156. Summing these percentages might not equal 100% due to rounding. V-codes were excluded from these frequencies.

Table 3d. Number of DSM Axis II diagnoses per youth at T1 and T2.

# Diagnoses	T1		T2	
	n	%	n	%
deferred	28	21%	33	21%
0	29	21%	41	27%
1	27	20%	26	17%
2	3	2%	2	1%

Note: T1 n = 137; T2 n = 156. Summing these percentages does not equal 100% due to missing data.

Table 3e. Frequency of DSM Axis III Medical Issues.

Axis III Medical Issue	T1 n	T2 n
Asthma	16	14
Obesity	6	5
Allergies	5	5
Enuresis	5	4
In-utero drug exposure	3	4
Lead exposure	3	2
Seizure Disorder	2	1
Anemia	1	2
Diabetes II	1	2
Elevated Blood Sugar	1	2
Lactose Intolerance	1	2
Arthritis	1	1
Breast Lump	1	1
Chicken Pox	1	1
Chlamydia/ Other STD	1	1
Constipation	1	1
Diabetes I	1	1
Encopresis	1	1
Eczema	1	1
Fractured Arm/Ankles	1	1
Hypothyroidism	1	1
Intermittent dizziness	1	1
Migraine Headaches	1	1
Short Stature	1	1
Sleep apnea	1	1
Acne	1	0
Cerumen Impacted Ears	1	0
GERD	1	0
Hearing Problems	1	0
Alopecia	0	1
Benign cardiac murmur	0	1
Fractured Nasal Septum	0	1
Mild structural cardiac abnormality	0	1
Myopia	0	1
Penile Adhesions	0	1
Positive PPD	0	1
Sinusitis	0	1

Note: T1 n = 137; T2 n = 156.



Table 4a. Classes, names, number of youth prescribed, and ranges of daily dosage of psychotropic drugs at T1 and T2.

Medication			T1	T2
Class	Generic	Brand	n	n
Antianxiety	<i>buspirone</i>	Buspar	2	3
	<i>clonazepam</i>	Klonopin	1	1
	<i>clorazepate</i>	Azene	0	1
	<i>lorazepam</i>	Ativan	1	1
Antidepressant	<i>bupropion</i>	Wellbutrin	2	3
	<i>bupropion SR</i>	Wellbutrin SR	2	1
	<i>duloxetine</i>	Cymbalta	0	1
	<i>escitalopram</i>	Lexapro	2	2
	<i>fluoxetine</i>	Prozac	9	11
	<i>citalopram</i>	Celexa	2	2
	<i>mirtazapine</i>	Remeron	1	0
	<i>paroxetine</i>	Paxil	2	1
	<i>sertraline</i>	Zoloft	5	5
	<i>trazodone</i>	Desyrel	3	5
	<i>venlafaxine</i>	Effexor	1	1
Anticonvulsant /Antimania	<i>divalproex sodium,</i>	Depakote	17	14
	<i>valproic acid</i>	Depakote ER	3	4
	<i>gabapentin</i>	Neurontin	1	0
	<i>lamotrigine</i>	Lamictal	2	4
	<i>oxcarbazepine</i>	Trileptal	6	3
	<i>topiramate</i>	Topomax	1	3
Antimania	<i>lithium carbonate</i>	Eskalith, Lithobid	5	4
		(oral solution)	1	1
	<i>lithium carbonate CR</i>	Eskalith CR	2	2

Class	Medication		T1	T2
	Generic	Brand	n	n
Antipsychotic	<i>aripiprazole</i>	Abilify	14	23
	<i>haloperidol</i>	Haldol	0	1
	<i>olanzapine</i>	Zyprexa	5	4
	<i>paliperidone</i>	Invega	0	2
	<i>perphenazine</i>	Trilafon	1	1
	<i>risperidone</i>	Risperdal	20	20
	<i>quetiapine</i>	Seroquel	15	17
	<i>ziprasidone</i>	Geodon	4	4
Stimulant	<i>amphetamine</i>	Adderall	5	6
		Adderall XR	9	11
	<i>atomoxetine</i>	Strattera	2	2
	<i>dextroamphetamine</i>	Dexedrine	1	1
	<i>dexmethylphenidate</i>	Focalin	2	2
		Focalin XR	3	4
	<i>methylphenidate</i>	Ritalin	3	2
	<i>methylphenidate ER</i>	Concerta	27	27
Sleep aid	<i>zolpidem tartrate</i>	Ambien	2	1
Others with psychotropic usage				
Anticholinergic	<i>benzatropine mesylate</i>	Cogentin	2	4
Antihypertensive	<i>clonidine</i>	Catapres	13	13
	<i>guanfacine</i>	Tenex	2	1
Allergy	<i>hydroxyzine</i>	Atarax	3	3
	<i>diphenhydramine</i>	Benedryl	3	5

Note: T1 n = 161; T2 n = 165. Some youth were prescribed more than one drug. Class refers to major category to which psychoactive drugs are assigned; however, drugs may be used to treat a variety of symptoms, particularly depending on dosage.

Table 4b. Number of medications prescribed per youth at T1 and T2.

# Drugs	T1		T2	
	n	%	n	%
0	67	42%	59	36%
1	33	21%	33	20%
2	33	21%	36	22%
3	17	11%	23	14%
4	4	3%	8	5%
5	5	3%	6	4%
6	2	1%	0	0%

Note: T1 n = 161; T2 n = 165.

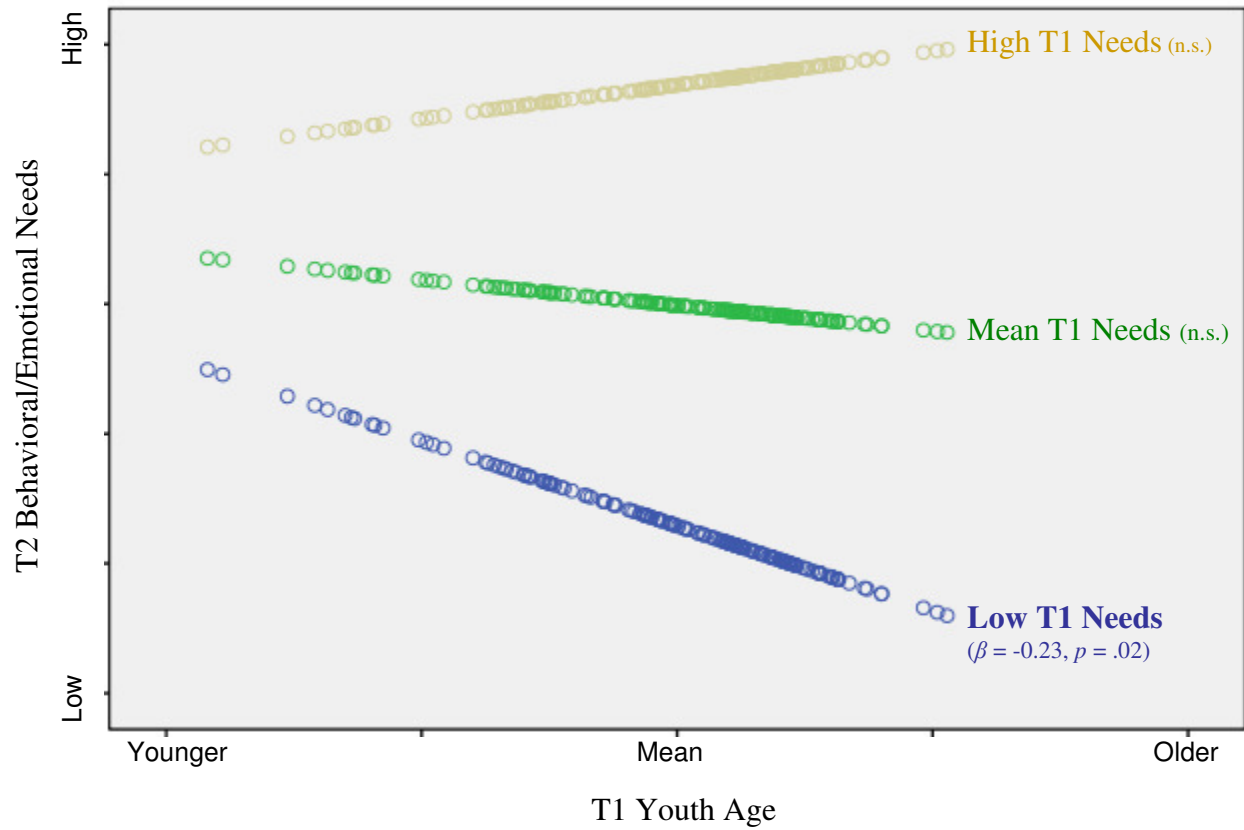
Table 4c. Number of antipsychotic medications prescribed per youth at T1 and T2.

# Drugs	T1		T2	
	n	%	n	%
0	104	65%	100	61%
1	55	34%	57	35%
2	2	1%	8	5%

Note: T1 n = 161; T2 n = 165. Summing these percentages might not equal 100% due to rounding.

Figure 1.

T2 Behavioral/emotional needs on youth age at three levels of T1 behavioral/emotional needs



## APPENDICES

APPENDIX A  
 Child and Adolescent Needs and Strengths (CANS)  
 Response Sets and Definitions  
 (Lyons, 2005, 2007)

### **Need Items**

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Rating	Definitions
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- |   |   |
|---|---|
| 0 | No evidence of need; no action necessary                        |
| 1 | History or suspicion of need requiring monitoring or prevention |
| 2 | Need requiring action (i.e., included in treatment plan)        |
| 3 | Need requiring immediate and/or intensive intervention          |
- 

Note: Implications of these ratings are that “2” and “3” ratings are needs that should be addressed in the youth’s treatment plans. A rating of “1” might require a low level intervention, and a “0” requires no intervention.

### **Strength Items**

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Rating	Definitions
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- |   |   |
|---|---|
| 0 | Identified strength, which could be centerpiece of strength-based plan                  |
| 1 | Identified strength, which included in strength-based planning but not as a centerpiece |
| 2 | Potential strength that has been identified but must be developed                       |
| 3 | No strength has been identified   |
- 

Note: Implications for these ratings are that “0” and “1” ratings can be used in strength-based planning and “2” and “3” ratings might suggest the need for strength-building interventions.

Two items could be coded “N/A”. Specifically, the Job Functioning item in the Life Domain Functioning subscale could be coded “N/A,” if the youth was unemployed in the past 30 days. The Vocational item in the Child Strengths subscale could be coded “N/A,” if the youth was twelve-years-old or younger.

APPENDIX B  
Frequencies of ratings on CANS items at T1 and T2  
N=180

**Life Domain**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Family	12	33	53	81	0	1	15	44	70	51	0	0
Living Situation	17	30	33	100	0	0	27	64	53	35	0	1
Social Dev	50	35	70	25	0	0	46	42	73	19	0	0
Recreational	121	26	25	7	0	1	124	24	27	5	0	0
Developmental	121	34	22	1	0	2	123	33	23	1	0	0
Job Functioning	26	2	1	5	146	0	45	5	0	8	122	0
Legal	127	28	16	8	0	1	116	42	15	7	0	0
Medical	125	36	17	0	0	2	118	46	16	0	0	0
Physical	131	46	2	1	0	0	132	43	4	1	0	0
Sexuality	126	27	21	5	0	1	122	34	20	4	0	0
School Behavior	54	35	75	15	0	1	48	50	68	13	0	1
School Achievement	26	32	56	65	0	1	38	39	55	47	0	1
School Attendance	76	42	31	30	0	1	79	45	35	20	0	1

**Child Strengths**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Family	9	31	104	36	0	0	10	42	100	28	0	0
Interpersonal	23	50	78	27	0	2	22	59	78	20	0	1
Optimism	29	48	79	23	0	1	30	54	69	27	0	0
Educational	34	47	63	33	0	3	37	66	46	29	0	2
Vocational	9	18	25	86	41	1	16	24	36	83	21	0
Talents	21	49	62	47	0	1	28	53	54	45	0	0
Spiritual	7	12	28	132	0	1	8	15	33	123	0	1
Community Life	2	13	53	110	0	2	3	35	37	85	0	0
Relationship Perm	1	22	111	45	0	1	2	27	110	40	0	1

**Acculturation**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Language	177	2	0	1	0	0	177	2	0	1	0	0
Identity	171	3	5	1	0	0	170	6	4	0	0	0
Ritual	179	1	0	0	0	0	179	1	0	0	0	0

**Caregiver Strengths**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Supervision	8	19	36	94	0	23	6	22	25	50	0	77
Involvement	14	25	27	91	0	23	15	26	19	43	0	77
Knowledge	22	33	45	57	0	23	20	26	22	35	0	77
Organization	41	21	19	76	0	23	30	14	13	46	0	77
Social Resources	19	22	31	83	0	25	12	14	22	54	0	78
Residential Stability	58	15	17	67	0	23	42	11	10	40	0	77

**Caregiver Needs**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Physical	138	6	2	11	0	23	90	0	4	8	0	78
Mental Health	98	22	25	12	0	23	67	11	17	8	0	77
Substance Use	113	9	20	15	0	23	76	5	16	5	0	78
Developmental	152	3	1	1	0	23	98	3	0	1	0	78
Safety	94	29	19	15	0	23	69	22	7	5	0	77

**Child Behavioral/Emotional Needs**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Psychosis	158	9	9	2	0	2	160	12	5	2	0	1
Impulse/Hyper	53	29	88	10	0	0	52	40	77	10	0	1
Depression	52	44	73	11	0	0	54	48	73	4	0	1
Anxiety	130	23	23	4	0	0	121	34	23	1	0	1
Oppositional	25	44	92	19	0	0	17	57	88	17	0	1
Conduct	61	60	52	7	0	0	58	67	46	8	0	1
Adjust to Trauma	83	59	24	12	0	2	85	60	27	7	0	1
Anger Control	35	37	83	24	0	1	23	58	80	18	0	1
Substance Use	111	46	21	2	0	0	111	42	26	0	0	1

**Child Risk Behaviors**

CANS Item	T1						T2					
	0	1	2	3	N/A	Miss	0	1	2	3	N/A	Miss
Suicide Risk	145	30	5	0	0	0	148	30	2	0	0	0
Self Mutilation	166	8	5	1	0	0	165	8	6	1	0	0
Other Self Harm	140	18	19	3	0	0	138	27	15	0	0	0
Danger to Others	83	48	45	4	0	0	77	55	44	3	0	1
Sexual Aggression	159	8	10	3	0	0	155	18	4	2	0	1
Runaway	118	38	16	8	0	0	102	45	15	18	0	0
Delinquency	92	59	25	4	0	0	76	77	25	2	0	0
Judgment	33	45	83	19	0	0	28	45	97	10	0	0
Fire Setting	168	6	3	1	0	2	169	10	1	0	0	0
Social Behavior	45	44	72	18	0	1	39	55	65	21	0	0

Note: N=180.



APPENDIX C  
T1 Frequencies of youth and CANS items rated “2” and “3” by subscale

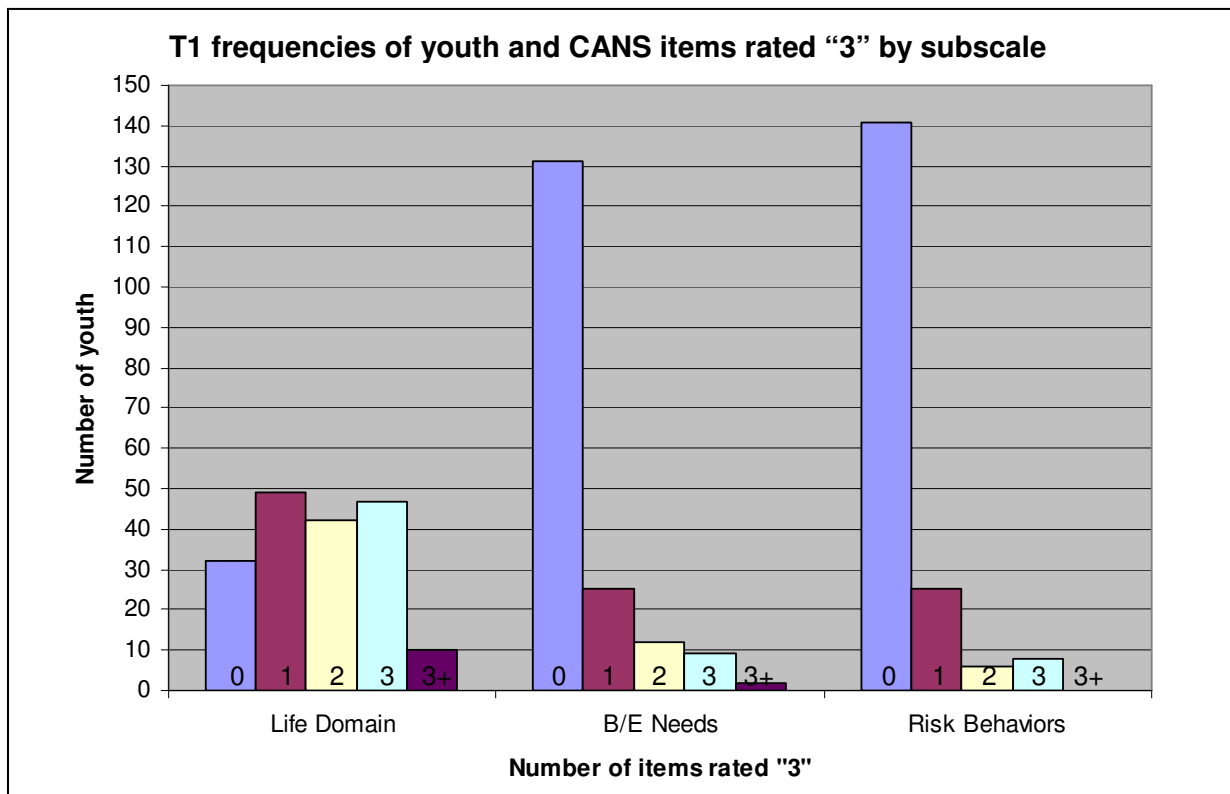
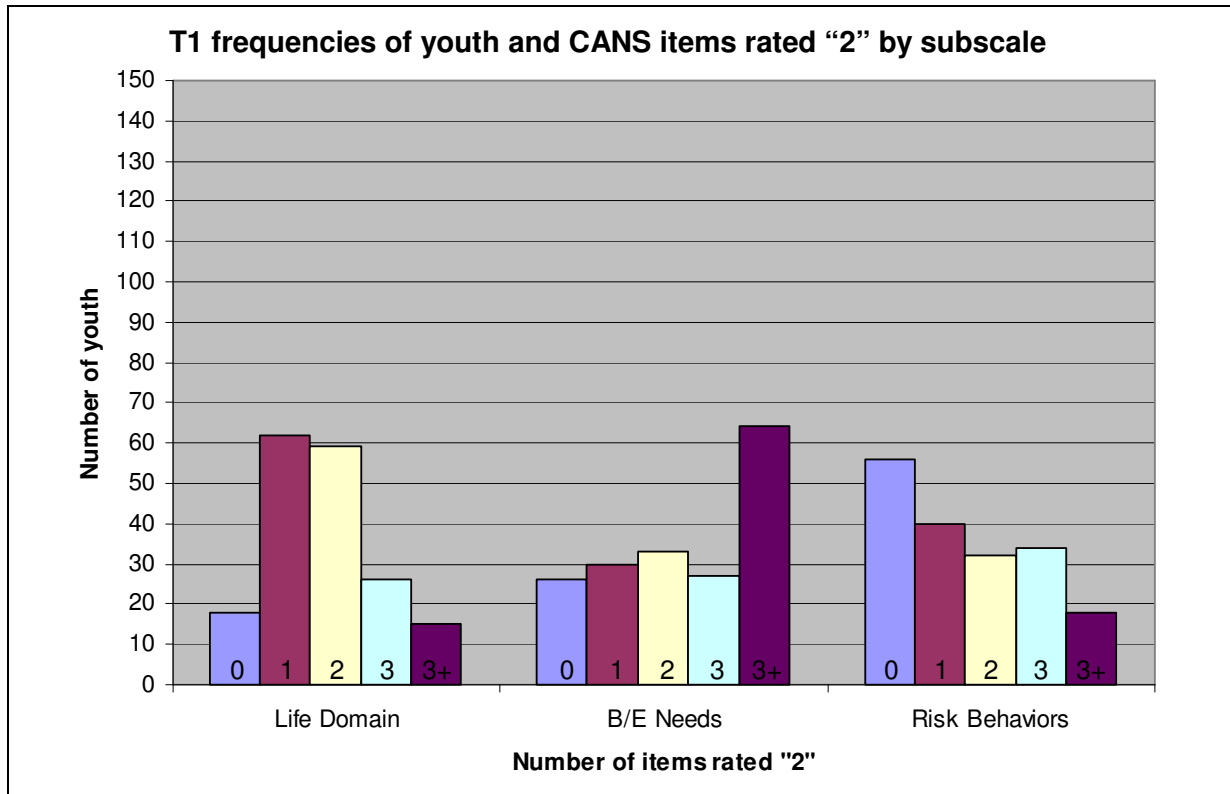
CANS Subscale	# Items Rated “2”										# Items Rated “3”									
	0		1		2		3		3+		0		1		2		3		3+	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Life Domain																				
Impairment	18	10	62	34	59	33	26	14	15	8	32	18	49	27	42	23	47	26	10	6
Behavioral & Emotional Needs	26	14	30	17	33	18	27	15	64	36	131	73	25	14	12	7	9	5	3	2
Risk Behaviors	56	31	40	22	32	18	34	19	18	10	141	78	25	14	6	3	8	4	0	0

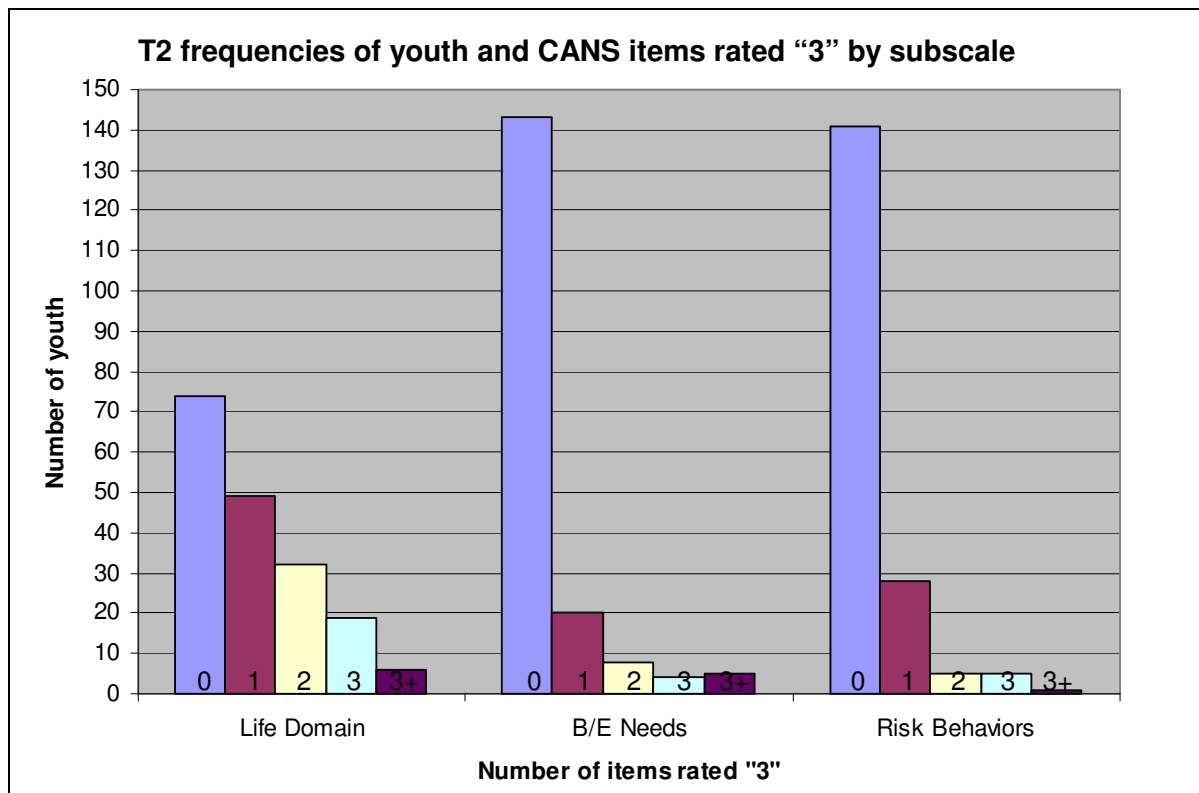
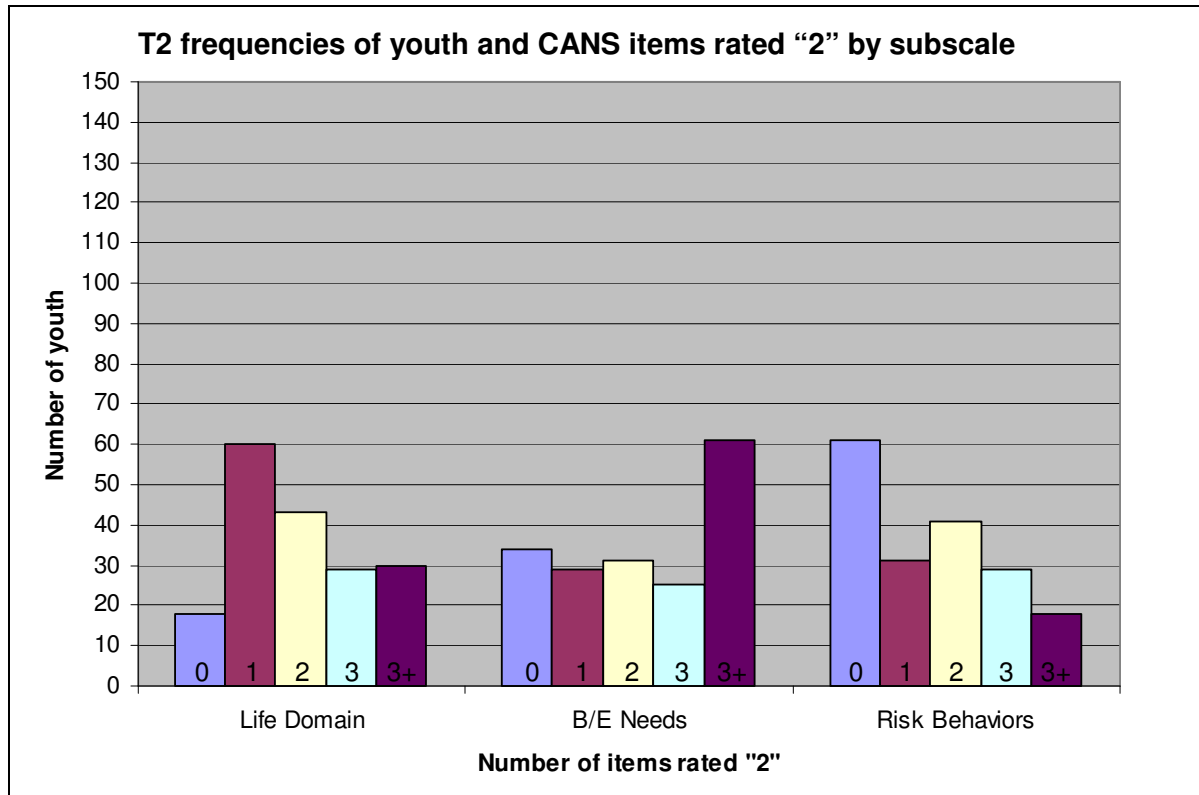
T2 Frequencies of youth and CANS items rated “2” and “3” by subscale

CANS Subscale	# Items Rated “2”										# Items Rated “3”									
	0		1		2		3		3+		0		1		2		3		3+	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Life Domain																				
Impairment	18	10	60	33	43	24	29	16	30	17	74	41	49	27	32	18	19	11	6	3
Behavioral & Emotional Needs	34	19	29	16	31	17	25	14	61	34	143	79	20	11	8	4	4	2	5	3
Risk Behaviors	61	34	31	17	41	23	29	16	18	10	141	78	28	16	5	3	5	3	1	1

Note: N = 180. Summing these percentages might not equal 100% due to rounding.

## APPENDIX D





APPENDIX E  
 Example Decision Support Algorithm  
 Philadelphia Department of Human Services  
 (Lyons, 2005)

<p style="text-align: center;"><b>TREATMENT FOSTER CARE</b></p> <p>IN ORDER TO BE ELIGIBLE FOR TFC, MUST HAVE THE FOLLOWING SCORES:</p> <p><b>Mental Health Need</b> – one "2 or 3" AND  <b>Functioning</b> – one "3" OR  <b>School and Social Behavior</b> – one "3" OR  <b>Risk</b> – one "2 or 3"</p>
--

## CANS

CRITERION	AREA	RATING	CANS ITEM
<b>Mental Health Need</b>	Presence of Symptoms Associated with a Serious Emotional/Behavioral Disorder	'2' or '3'	17. Psychosis 18. Attention Deficit/Impulse Control 19. Depression/Anxiety 20. Anger Control 21. Oppositional Behavior 22. Antisocial Behavior 23. Adjustment to Trauma 24. Attachment 33. Severity of Substance Abuse
<b>Functioning</b>	Notable Impairment in Functioning in at least one area	'3'	1. Motor 2. Sensory 3. Intellectual 4. Communication 5. Developmental 6. Self Care/Daily Living Skills 7. Physical/Medical
<b>School and Social Behavior</b>	Notable Impairment in School Functioning and Social Behavior	'3'	10. School Behavior 11. School Attendance 32. Social Behavior
<b>Risk</b>	Notable Risk Behaviors in at least one area	'2' or '3'	29. Danger to Self 30. Fire Setting 31. Runaway 38. Seriousness of Criminal Behavior 40. Violence 41. Sexually Abusive Behavior

**THRESHOLD - CONGREGATE CARE****Consider GROUP HOME if child meets:**Criterion 1 **AND**

Criterion 3 OR 5 OR if the "Caregiving Roles" items &gt; '1' and youth is pregnant or parenting

**Consider INSTITUTION if child meets:**Criterion 2 **AND**

Criterion 4 OR 6 OR 7

MENTAL HEALTH TRACK OR GENERAL: At least a '2' on Psychosis (item 17)

OR at least one "3" rating on any of the items Adjustment to Trauma (23), Attachment (24) or Depression/Anxiety (19)

<b>CRITERION</b>		<b>RATING</b>	<b>CANS ITEM</b>
<b>1</b>	Mental Health Needs	Two or more "2" ratings on these items	17. Psychosis 18. Attention Deficit/ Impulse Control 19. Depression/Anxiety 20. Anger Control 21. Oppositional Behavior 22. Antisocial Behavior 23. Adj. To Trauma 24. Attachment 33. Severity of Substance Abuse
<b>2</b>	Mental Health Needs	One or more "3" ratings on these items	17. Psychosis 18. Attention Deficit/ Impulse Control 19. Depression/Anxiety 20. Anger Control 21. Oppositional Behavior 22. Antisocial Behavior 24. Attachment 33. Severity of Substance Abuse
<b>3</b>	Risk	One or more "2" ratings on these items	29. Danger to Self 30. Fire Setting 31. Runaway 38. Seriousness of Criminal Behavior 41. Sexually Abusive Behavior
<b>4</b>	Risk	One or more "3" ratings on these items	29. Danger to Self 30. Fire Setting 31. Runaway 38. Seriousness of Criminal Behavior 40. Violence 41. Sexually Abusive Behavior 32. Social Behavior Judgment Victimization
<b>5</b>	School	Two or more "3" ratings on these items	School Achievement School Attendance School Behavior
<b>6</b>	Substance Use	Ratings of "2" or more on both items	Severity of Substance Use Duration of Substance Use
<b>7</b>	Delinquent Behavior	Ratings of "2" or more on both items	Seriousness of Delinquent Behavior History of Delinquent Behavior